

REMARKS

Applicants have carefully considered the points raised in the Office Action and believe that the Examiner's concerns have been addressed as described herein, thereby placing this case into condition for allowance.

Rejection under 35 U.S.C. §102(e)

Claims 1, 3-12, 14-15, 40-47, and 66-70 are rejected under 35 U.S.C. §102(e) as allegedly anticipated by Hepburn et al. ("Hepburn") (U.S. Patent No. 6,813,882). Applicants respectfully traverse this rejection.

The present claims are directed to devices and processes for producing a reducing gas, comprising injecting fuel upstream from a catalytic zone that comprises an oxidation catalyst *and a reducing catalyst* to form a rich zone in an oxygen containing gas stream, wherein the injected fuel flows through the catalytic zone, and wherein a portion of the injected fuel in the rich zone is oxidized on the oxidation catalyst and *at least a portion of the remaining fuel in the rich zone is reformed on the reforming catalyst*, thereby producing a reducing gas stream. In contrast, Hepburn teaches a device and process for regenerating a NO_x trap, comprising adding a reductant to an exhaust stream (*e.g.*, diesel fuel or gasoline) flowing into an oxidation catalyst, partially oxidizing the reductant on the oxidation catalyst, and *oxidizing the remaining portion of the reductant* to remove NO_x. Hepburn does not disclose a reforming catalyst, and does not teach use of a reforming catalyst to reform remaining fuel after oxidation of a portion of the injected fuel. In contrast to the present claims, which recite a catalytic reforming process, Hepburn teaches *oxidation* of the remaining fuel after oxidation of a portion of the injected fuel (*see, e.g.*, column 1, lines 60-63, and Abstract). Since Hepburn does not teach reforming of injected fuel on a reforming catalyst, which is an element of the present claims, this reference does not anticipate the claimed invention.

Claims 5, 44, 68, and 70 include the further feature that fuel is injected into a portion of the oxygen containing gas stream essentially continuously, *forming a rich zone that flows through a*

portion of the catalytic zone that varies over time. For example, fuel may be added to a portion of a gas stream flowing through a rotating catalyst structure such that a rich zone of the gas stream flows through a portion of the catalyst structure, and the portion varies over time due to the radial rotation of the catalyst structure. (See, for example, paragraph [0074]-[0076] and Figure 5.) In another embodiment, rather than rotating the catalyst structure, the portion of the catalyst structure through which a rich zone of the gas stream flows is varied over time by changing the angle of fuel injection with respect to the catalyst structure over time. (See, for example, paragraph [0077].) Hepburn does not teach a device or process wherein the portion of a catalyst structure through which a rich zone flows in an oxygen containing gas stream flows varies over time. There is no disclosure in this reference of a catalyst structure rotating with respect to a fuel injector or a fuel injector angle varying with respect to a catalyst structure as described in the instant application, and no teaching of any device or process in which fuel is injected essentially continuously to create a rich zone in a gas stream which contacts a changing portion of the catalyst structure through which the rich zone flows over time, as claimed. Since Hepburn does not teach these elements of claims 5, 44, 68, and 70, this reference does not anticipate these claims for this reason, as well as for the reasons discussed above with respect to lack of disclosure of a reforming catalyst.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §102(e).

Allowable Subject Matter

Applicants appreciate the statement in the Office Action that claims 13, 16-18, and 48 contain allowable subject matter and are objected to solely due to their dependence upon a rejected base claim. Applicants believe that the claims from which these claims depend are also in condition for allowance, as discussed above.

Supplemental Information Disclosure Statement

Applicants are submitting a Supplemental Information Disclosure Statement concurrently herewith. Applicants would appreciate the Examiner initialing the Form PTO/SB/08/a/b, indicating that the references listed therein have been considered and made of record in this application.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 220772010800. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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